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Response

Response to Song

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We thank Dr Song for their thoughtful assessment of our study (1). As noted, we found that patients with cancer who had received vaccination for SARS CoV-2 had a lower risk of severe disease than those who had not received vaccination. Although there were not major differences in this association by treatment type, we agree that because of small numbers, results in subgroups must be interpreted with caution. It is worth noting that patients who had received an allogeneic stem cell transplant or chimeric antigen receptor T-cell therapy at any time in the past were eligible for our study; our intent was to capture a wide range of patients with ongoing immune effects of treatment. In the transplant treatment category, only 13% had received chimeric antigen receptor T-cell therapy, and of those, the majority received treatment treated more than 3 months prior to their diagnosis of COVID-19, making it unlikely that concurrent cytokine release syndrome was present.

In our data collection, we recorded the use of all monoclonal antibodies that were given for COVID-19. The combination of tixigevimab and cilgavimab was given emergency use authorization by the US Food and Drug Administration on December 8, 2021, as pre-exposure prophylaxis for individuals with compromised immune systems on the basis of data from the PROVENT trial (2), which showed a reduced risk of becoming infected with SARS CoV-2 in immunosuppressed adults receiving this treatment compared with those receiving placebo. This combination was subsequently also shown to reduce severity of disease in individuals after a COVID-19 diagnosis (3), and we therefore included it in our analysis as a COVID-19 treatment. In our study, 6 patients received tixigevimab and cilgavimab, and all doses were received after SARS CoV-2 infection. Additionally, as most of our enrollment occurred prior to the emergency use authorization date of December 8, 2021, we believe that the number of patients who may have received tixigevimab and cilgavimab as prophylaxis prior to study enrollment is likely quite small.

Parsing out the role of corticosteroids in COVID-19 severity in cancer patients is complex, as these patients may receive steroids not only for treatment of COVID-19 but also as a component of their cancer therapy, as premedication for cancer treatment, or as treatment for therapy side effects. We recorded the use of all concomitant medications in patients on our study and plan to examine steroid use more fully in future analyses.

Cancer treatments, particularly immunotherapies, are known to affect inflammatory responses, and it is yet unknown how this may affect the disease course of COVID-19 in those receiving active cancer treatment. The interplay between cancer-specific therapies and COVID-19 susceptibility, severity, and outcomes is likely complex. A key component of the National Cancer Institute COVID-19 in Cancer Patients Study is the longitudinal collection of biospecimens. Analysis of correlates of severity of infection and long-term response and immunity, including cytokines, inflammatory markers, immune cell phenotype, and serology and neutralizing antibodies are ongoing. It is our hope that this study will provide important data on long-term effects of SARS-CoV-2 infection on inflammatory markers and help elucidate the contributions of humoral and cellular immunity to COVID-19 disease in immunocompromised patients.

Data availability

There are no supporting datasets, computer code, or software tools associated with this invited response. No new data were generated or analysed in support of this research.

Author contributions

Larissa A Korde (Conceptualization; Data curation; Writing – original draft; Writing – review & Editing); Ana F Best (Conceptualization; Data curation; Writing – original draft; Writing – review & Editing).

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Conflicts of interest

None reported.

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